

# Source Water Assessment Report



**Public Water Supply: JUNCTION CITY, CITY OF**

**Assessment Areas Include:**

**87**



Kansas Department of Health and Environment  
Bureau of Water Watershed Management Section  
1000 SW Jackson St., Suite 420  
Topeka, KS 66612-1367



Burns & McDonnell  
9400 Ward Parkway  
Kansas City, MO 64114



Kansas Geological Survey University of Kansas  
1930 Constant Ave.  
Lawrence, KS 66047

Reports were generated with the Automated Source Water Assessment Tool (ASWAT). Assessments were completed online using ASWAT by hundreds of state employees, public water supply staff, and technical assistant providers throughout the State of Kansas.

# Table Of Contents

<a href="#"><u>Report Description</u></a>	
<a href="#"><u>Assessment Area 87</u></a>	<a href="#"><u>1.0</u></a>
<a href="#"><u>Executive Summary</u></a>	<a href="#"><u>1.1</u></a>
<a href="#"><u>Potential Sources</u></a>	<a href="#"><u>1.2</u></a>
<a href="#"><u>Added Sources</u></a>	<a href="#"><u>1.3</u></a>
<a href="#"><u>Potential Contaminants Summary</u></a>	<a href="#"><u>1.4</u></a>
<a href="#"><u>Potential Contaminants Listing</u></a>	<a href="#"><u>1.5</u></a>
<a href="#"><u>Protection Measures</u></a>	<a href="#"><u>1.6</u></a>
<a href="#"><u>Assessment Analysis</u></a>	<a href="#"><u>1.7</u></a>
<a href="#"><u>Site Comments</u></a>	<a href="#"><u>1.8</u></a>
<a href="#"><u>Added Site Comments</u></a>	<a href="#"><u>1.9</u></a>
<a href="#"><u>Analysis Question Comments</u></a>	<a href="#"><u>1.10</u></a>

# Report Description

## Detailed Explanation of Entire Report:

The 1996 amendments to the Safe Drinking Water Act require each state to develop a Source Water Assessment Program (SWAP) and a Source Water Assessment (SWA) for each Public Water Supply (PWS) that treats and distributes raw source water. In Kansas there are 761 public water supplies that require SWAs. A SWA includes a delineation of the source water assessment area, an inventory of potential contaminant sources, and a susceptibility analysis.

A PWS can consist of one or more individual assessment areas that require different assessments. In general, an assessment area is delineated at a two-mile fixed radius for a groundwater well. A surface water intake assessment area is the upstream-drainage area (watershed), inside the state border. Additionally, an assessment area can consist of an individual well, group of wells, an individual surface water intake, or multiple surface water intakes.

After each assessment is completed a report is automatically generated using an Internet-based application called the Automated Source Water Assessment Tool (ASWAT). The individual assessment reports combine to form the entire SWA report for a PWS.

A map of each Assessment Area was also generated with ASWAT. However, for security reasons the maps are not included in this report. To obtain a copy of the map(s), please contact your local PWS.

All PWS reports will be available for viewing and downloading on KDHE's Watershed Management Section website(<http://www.kdhe.state.ks.us/nps>) in 2004.

## JUNCTION CITY, CITY OF Summary:

AA	Type	Diversion Id
87	River Alluvium	011, 017, 008, 006, 010, 012, 013, 014, 015, 016

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**  
Diversion Id's: **011, 017, 008, 006, 010, 012, 013, 014, 015, 016**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:41:43**

## **Executive Summary:**

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

# Executive Summary

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**

## Susceptibility Likelihood Scores for Assessment Area

	<b>A</b>	<b>B</b>	<b>B1</b>	<b>B2</b>	<b>C</b>	<b>C*</b>	<b>D</b>
Susceptibility Likelihood Score – SLS	<b>52</b>	<b>59</b>	<b>59</b>	<b>72</b>	<b>60</b>	<b>46</b>	<b>62</b>
SLS Range	<b>Mid</b>	<b>Mid</b>	<b>Mid</b>	<b>Mid</b>	<b>Mid</b>	<b>Low</b>	<b>Mid</b>

**A** – Microbiological

**B2** – Sedimentation

**C\*** – Pesticides

**B** – Inorganic Compounds

**C** – Synthetic Organic Compounds

**D** – Volatile Organic Compounds

**B1** – Eutrophication – Phosphorous

## Susceptibility Likelihood Range

SLS Range	
<b>0–50</b>	<b>Low Susceptibility</b>
<b>51–80</b>	<b>Moderate Susceptibility</b>
<b>81–100</b>	<b>High Susceptibility</b>

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**  
Diversion Id's: **011, 017, 008, 006, 010, 012, 013, 014, 015, 016**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:41:43**

## Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

**Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.**

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

# Potential Sources

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**

## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
137958	Single-family Housing Construction	1521	B
137804	Highway and Street Construction	1611	B
137805	Highway and Street Construction	1611	B
137806	Highway and Street Construction	1611	B
137807	Highway and Street Construction	1611	B
137808	Highway and Street Construction	1611	B
138629	Meat Packing Plant Manufacturing	2011	B
137959	Machinery, Except Electrical Manufacturing	3599	B
138630	Boat Building and Repairing Shop Manufacturing	3732	B
137800	Mobile Home Park	6515	B
137962	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B
137966	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	B
137945	Auto Truck Repair Service	7538	B
137971	Auto Truck Repair Service	7538	B

## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
137972	Auto Truck Repair Service	7538	B
138572	Car Wash	7542	B
137831	Repair Services, Nec	7699	B
138020	Veterinary Services, Specialties	742	C
138319	Veterinary Services, Specialties	742	C
138392	Veterinary Services, Specialties	742	C
138637	Veterinary Services, Specialties	742	C
137718	Rock Quarry	1429	C
137720	Single-family Housing Construction	1521	C
137721	Single-family Housing Construction	1521	C
137774	Single-family Housing Construction	1521	C
137983	Single-family Housing Construction	1521	C
137984	Single-family Housing Construction	1521	C
138004	Single-family Housing Construction	1521	C
138017	Single-family Housing Construction	1521	C
138036	Single-family Housing Construction	1521	C
138213	Single-family Housing Construction	1521	C
138348	Single-family Housing Construction	1521	C
138354	Single-family Housing Construction	1521	C
138375	Single-family Housing Construction	1521	C
141770	Single-family Housing Construction	1521	C
141771	Single-family Housing Construction	1521	C
138425	Nonresidential Construction	1542	C



## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
138708	Nonresidential Construction	1542	C
137722	Highway and Street Construction	1611	C
137991	Highway and Street Construction	1611	C
137838	Bottled and Canned Soft Drinks Production	2086	C
138612	Bottled and Canned Soft Drinks Production	2086	C
138184	Newspapers Publishing and Printing	2711	C
138185	Newspapers Publishing and Printing	2711	C
138037	Commercial Printing–Lithographic	2752	C
137827	Commercial Printing NEC	2759	C
138127	Commercial Printing NEC	2759	C
138119	Metal Coating and Allied Services Manufacturing	3479	C
138524	Metal Coating and Allied Services Manufacturing	3479	C
137998	Machinery, Except Electrical Manufacturing	3599	C
138608	Machinery, Except Electrical Manufacturing	3599	C
138010	Current–carrying Wiring Devices Manufacturing	3643	C
138571	Railroad Equipment Manufacturing	3743	C

## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
137934	Local Trucking, without Storage	4212	C
137993	Farm Product Warehousing and Storage	4221	C
137727	Sewerage Systems	4952	C
138107	Refuse Systems	4953	C
137989	Farm and Garden Machinery	5083	C
137986	Scrap and Waste Materials	5093	C
137903	Gasoline Service Station	5541	C
138230	Gasoline Service Station	5541	C
138249	Gasoline Service Station	5541	C
137766	Mobile Home Park	6515	C
138566	Mobile Home Park	6515	C
138569	Mobile Home Park	6515	C
138576	Mobile Home Park	6515	C
138617	Mobile Home Park	6515	C
138619	Mobile Home Park	6515	C
138636	Mobile Home Park	6515	C
138351	Sporting and Recreational Camps	7032	C
138084	Photofinishing Laboratory	7384	C
137900	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
138016	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
138025	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C

## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
138378	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
138610	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
137795	Auto Truck Repair Service	7538	C
137837	Auto Truck Repair Service	7538	C
137845	Auto Truck Repair Service	7538	C
137997	Auto Truck Repair Service	7538	C
138115	Auto Truck Repair Service	7538	C
138157	Auto Truck Repair Service	7538	C
138377	Auto Truck Repair Service	7538	C
138502	Auto Truck Repair Service	7538	C
138611	Auto Truck Repair Service	7538	C
137894	Car Wash	7542	C
137990	Car Wash	7542	C
138041	Car Wash	7542	C
138521	Car Wash	7542	C
137773	Repair Services, Nec	7699	C
137814	Repair Services, Nec	7699	C
138183	Repair Services, Nec	7699	C
138352	Repair Services, Nec	7699	C
138376	Repair Services, Nec	7699	C
138627	Repair Services, Nec	7699	C

## Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
141769	Golf Course	7992	C

## Regulated Confined Animal Feeding Operations Potential Site Sources

Did Not Contain Any Of These Potential Site Sources
---

## Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources
---

## Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000158	Taylor Petroleum #603	01896	B
3000695	Total #4157	06973	B
3000808	Public Wks Dept	08255	B
3001175	Riverside Standard	19365	B
3001204	Steves Auto	20363	B
3001256	Texaco, Steve's	23085	B
3001455	Mobile Traveler Industrial Park	25416	B

## Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3001932	Milford Lake	27525	B
3002203	Military Sales Co	29093	B
3002408	Freeman Field	40505	B
3002817	More Sand Co Inc	81601	B
3000046	Town Country #69	00260	C
3000160	4th Street Service	01908	C
3000217	Farmer-stockman Coop	02619	C
3000430	Junction City Transport	05238	C
3000512	Geary Community Hosp	06166	C
3000580	Total #2174 (vickers)	06429	C
3000612	Pepsi Cola	06558	C
3000630	Kwik Shop #756	06619	C
3000699	Total #1864	06979	C
3000723	B D Market	07091	C
3000732	Westwood Kwik Sak	07146	C
3000735	16th Street Service	07149	C
3001097	Jim's 66 Service	16181	C
3001139	Mckenna Auto Sales	17630	C
3001248	Willhoite's Inc	22869	C
3001512	Willard Whorton Son	25700	C
3001601	Junction City Agri Service	26092	C
3001636	Meier Ready Mix	26250	C
3001647	Fina #9474, (woods Mini Mart)	26289	C

## Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3001649	Kwik Sack #3	26293	C
3001650	Shop Quik	26294	C
3001867	Milford Fish Hatchery	27261	C
3001897	United Telephone	27404	C
3001924	Goodyear Tire Co	27500	C
3002025	Jim Clark Chevrolet	28162	C
3002205	Rolling Meadows Golf Course	29105	C
3002342	A-one Taxi Co	29727	C
3002704	Geary Co Hwy Dept	81326	C
3002778	Former Car Dealer	81484	C
3002818	City Ice Co	81602	C
3002828	Rr Auto Detailing Limo Service	81640	C
3002867	Bell Taxi Trans. Of Manhattan	81766	C
3002879	Gross Wrecker Service	96095	C

## Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000751	CAMP FORSYTH FORMER LANDFILL #1	C503171146	B
7000752	CAMP FORSYTH FORMER LANDFILL #2	C503171147	B
7000753	CAMP FORSYTH FORMER LANDFILL #3	C503171148	B
7000754	CAMP FORSYTH FORMER LANDFILL #4	C503171149	C

## Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000755	CAMP FORSYTH FORMER LANDFILL #5	C503171150	C
7000756	CAMP FORSYTH SUBSTATION (FORMER)	C503171151	C

## Regulated Solid Waste Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
5000283	Pinkerton Motors, Inc.	0273-S	B
5000377	Ft. Riley Dept. of Army	0370-S	B
5000614	Itel Rail Corp.	0601-S	C

## Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000746	MARTIN MARIETTA- (JCT CITY/FT RILEY)	I-LR15-PO01	B
6000518	FT. RILEY (DEPT OF ARMY)	F-KS97-PO01	C
6000524	FT. RILEY (DEPT OF ARMY)	F-KS97-PO01	C
6000747	KDWP (MILFORD FISH HATCHERY)	I-LR15-PO02	C
6000748	FINA OIL CHEMICAL CO.	I-LR15-PO03	C
6001421	JUNCTION CITY MWTP	M-LR15-OO01	C
6001422	JUNCTION CITY MWTP	M-LR15-OO01	C

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**  
Diversion Id's: **011, 017, 008, 006, 010, 012, 013, 014, 015, 016**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:41:43**

## **Added Sources:**

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

**Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.**



# Added Sources

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**

## Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000098	Water Hazard	0	B
9000032	aboveground fuel storage tanks	10026	B
9000034		10067	B
9000099	rural residence	10067	B
9000590	Septic System for Jack Jill Daycare	10067	B
9000033		10075	B
9000591	Irrigated cornfield	115	B
9000674	underground storage tanks	5541	B
9000097		1521	C

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**  
Diversion Id's: **011, 017, 008, 006, 010, 012, 013, 014, 015, 016**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:41:43**

## **Potential Contaminants Summary:**

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

# Potential Contaminants Summary

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**

## Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Sedimentation	Pesticides	IOC's	SOC's	VOC's	E – P
32	32	2	65	21	45	31

**A** – Microbiological

**B2** – Sedimentation

**C\*** – Pesticides

**B** – Inorganic Compounds

**C** – Synthetic Organic Compounds

**D** – Volatile Organic Compounds

**B1** – Eutrophication – Phosphorous

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**  
Diversion Id's: **011, 017, 008, 006, 010, 012, 013, 014, 015, 016**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:41:43**

## Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

**A** – Microbiological    **B** – Inorganic Compounds    **B1** – Eutrophication – Phosphorous  
**B2** – Sedimentation    **B\*** – Nitrates    **C** – Synthetic Organic Compounds  
**C\*** – Pesticides    **D** – Volatile Organic Compounds

# Potential Contaminants Listing

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**

## Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
3732	Boat Building and Repairing Shop Manufacturing	inorganics, VOCs	B
"	"	"	D
2086	Bottled and Canned Soft Drinks Production	BOD	A
7542	Car Wash	Inorganics, VOCs	B
"	"	"	B1
"	"	"	B2
"	"	"	D
3643	Current-carrying Wiring Devices Manufacturing	inorganics, VOCs	B
"	"	"	D
5541	Gasoline Service Station	Inorganics, VOCs	B
"	"	"	D
7992	Golf Course	Fertilizers and pesticides	A
"	"	"	B1
"	"	"	B2
"	"	"	B*

## Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7992	Golf Course	Fertilizers and pesticides	C*
1611	Highway and Street Construction	Sedimentation	B2
4212	Local Trucking, without Storage	VOCs	D
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	B
"	"	"	D
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	A
"	"	"	B*
3479	Metal Coating and Allied Services Manufacturing	inorganics, VOCs	B
"	"	"	D
6515	Mobile Home Park	Sanitary wastes, Fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B*
1542	Nonresidential Construction	Sedimentation	B2
7384	Photofinishing Laboratory	NA	B
"	"	"	D
3743	Railroad Equipment Manufacturing	Inorganics, metals, VOCs	B
"	"	"	D
1429	Rock Quarry	Sedimentation	B2

## Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
5093	Scrap and Waste Materials	Metals, TSS	B
4952	Sewerage Systems	Inorganics, VOCs	B
"	"	"	B1
"	"	"	B*
"	"	"	D
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
2752	Commercial Printing-Lithographic	Inorganics, VOCs, Semi volatiles	B
"	"	"	C

## Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2752	Commercial Printing–Lithographic	Inorganics, VOCs, Semi volatiles	D
4221	Farm Product Warehousing and Storage	TSS, VOCs	B
"	"	"	D
5083	Farm and Garden Machinery	inorganics	B
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
4953	Refuse Systems	ALL	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
"	"	"	C*
"	"	"	D
7699	Repair Services, Nec	inorganics	B



Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**  
Diversion Id's: **011, 017, 008, 006, 010, 012, 013, 014, 015, 016**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:41:43**

## **Protection Measures:**

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

# Protection Measures

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
3732	Boat Building and Repairing Shop Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct. Recycle where possible. Manage chemicals carefully	State or federal Storm water pollution prevention regulations
2086	Bottled and Canned Soft Drinks Production	BOD	Wastewater pretreatment and/or discharge to a POTW.	40 CFR 407 and State or federal Storm water pollution prevention regulations
7542	Car Wash	Inorganics, VOCs	Install and maintain sediment and grease traps where appropriate	40 CFR 442
3643	Current-carrying Wiring Devices Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	40 CFR 469 and State or federal Storm water pollution prevention regulations
5541	Gasoline Service Station	Inorganics, VOCs	Maintain area to minimize fuel contamination	NA

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7992	Golf Course	Fertilizers and pesticides	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals.	KDHE, KAR 28–16
1611	Highway and Street Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
4212	Local Trucking, without Storage	VOCs	Discharge to a POTW	State or federal Storm water pollution prevention regulations
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	Wastewater pretreatment and/or discharge to a POTW	40CFR 432 and State or federal Storm water pollution prevention regulations
3479	Metal Coating and Allied Services Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	40 CFR 433 and State or federal Storm water pollution prevention regulations

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
6515	Mobile Home Park	Sanitary wastes, Fertilizers	Discharge to POTW. Minimize use of lawn chemicals	KAR 28–5
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28–16, KDHE
7384	Photofinishing Laboratory	NA	Discharge to POTW. Recycle chemicals	CFR 40 459
3743	Railroad Equipment Manufacturing	Inorganics, metals, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	40 CFR 464 and State or federal Storm water pollution prevention regulations
1429	Rock Quarry	Sedimentation	Erosion and Sediment Control	KAR 28–16
5093	Scrap and Waste Materials	Metals, TSS	Minimize contact with storm water	State or federal Storm water pollution prevention regulations

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
4952	Sewerage Systems	Inorganics, VOCs	Manage sludge properly. Minimize storm water contact with chemicals	KAR 28–16 and State or federal Storm water pollution prevention regulations
1521	Single–family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28–48, KDHE, KDEM
7032	Sporting and Recreational Camps	sanitary, fertilizers, pesticides	Discharge to POTW. Minimize use of lawn chemicals	KAR 28–5
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations

## Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
2752	Commercial Printing–Lithographic	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
4953	Refuse Systems	ALL	Store wastes properly in order to minimize contact with storm water.	Maintain the lagoon or storage vessel properly. Control storm water run on and runoff to minimize contamination of storm water
7699	Repair Services, Nec	inorganics	Discharge to POTW	NA

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**  
Diversion Id's: **011, 017, 008, 006, 010, 012, 013, 014, 015, 016**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:41:43**

## **Assessment Analysis:**

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

# Assessment Analysis

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**

## Surface Water Multiple Wells Analysis

**A** – Microbiological    **B** – Inorganic Compounds

**B1** – Eutrophication – Phosphorous

**B2** – Sedimentation    **C** – Synthetic Organic Compounds

**C\*** – Pesticides        **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B1	B2	C	C*	D
1	Is any intake located at a treatment plant?	Yes	0	0	0	0	0	0	0
2	Is there an open channel conveyance from any of the intakes to a treatment plant?	No	0	0	0	0	0	0	0
3	Does a PWS own or control all conveyance right-of-ways?	Yes	0	0	0	0	0	0	0
4	Does a PWS own or control all areas within 1/4 mile of intake?	Yes	0	0	0	0	0	0	0
5	Are all areas within 1/4 mile of intakes entirely native grass?	No	1	1	0	0	1	1	1
6	Is transportation infrastructure in close proximity to intake?	No	0	0	0	0	0	0	0
7	Are there water quality protection plans in use for each site?	Yes	0	0	0	0	0	0	0
8	Are any commercial, industrial, or urban areas present?	Yes	1	1	0	0	1	1	1
9	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	0	0	1	1	1
10	Is riparian area vegetated?	Yes	0	0	0	0	0	0	0
11	Has riparian area been farmed up to the stream/riverbank?	Yes	0	0	0	0	0	1	0
12	Is there a lack of native grass or trees?	No	0	0	0	0	0	1	0
13	Is livestock use present in any of the riparian areas?	No	0	0	0	0	0	0	0
14	Are any confined livestock production sites in riparian area?	No	0	0	0	0	0	0	0
15	Is each confinement area registered with KDHE?	Yes	0	0	0	0	0	0	0
16	Are any row crops (corn, milo, soybeans) present?	Yes	0	0	1	1	0	2	0
17	Are water quality protection plans in use for each cropland?	No	0	0	1	1	0	2	1



No.	Question	Response	A	B	B1	B2	C	C*	D
18	Are any orchards present?	No	0	0	0	0	0	0	0
19	Are water quality protection plans in use for each orchard?	Yes	0	0	0	0	0	0	0
20	Is the intake a river intake?	Yes	1	1	0	1	1	1	1
21	Is the intake at a city owned lake?	No	1	1	1	1	1	1	1
22	Is there water quality monitoring conducted at all the rivers and/or lakes?	No	1	1	1	1	1	1	1
23	Is TMDL needed for the river or lake?	No	0	0	0	0	0	0	0
24	Are TMDL pollutants of concern reported by monitoring?	No	1	1	1	1	1	1	1
25	Are any point source discharges within 16 miles upstream of any intake?	Yes	1	1	1	1	1	0	1
26	Is pretreatment required at any point sources?	Yes	1	1	1	1	1	0	1
27	Are all riparian buffers vegetated?	Yes	0	0	0	0	0	0	0
28	Are vegetated riparian buffers and a water quality protection plan in place?	No	1	1	1	1	0	1	0
29	Is there urbanized land within any of the riparian buffers?	Yes	1	1	1	1	1	1	1
30	Is a NPDES stormwater permit required for the urbanized areas?	No	1	1	1	1	1	1	1
31	Are voluntary water quality protection plans in place for each urbanized area?	No	1	1	1	1	1	1	1
32	Is there industrial land use within any of the riparian buffers?	No	0	0	0	0	0	0	0
33	Is a NPDES stormwater permit required for the industrial areas?	No	1	1	1	1	1	1	1
34	Are voluntary water quality protection plans in place for each industrial area?	Yes	0	0	0	0	0	0	0
35	Is there any small grain (wheat, oats, barley) production?	No	0	0	0	0	0	0	0
36	Are water quality protection plans in use for each grain production?	Yes	0	0	0	0	0	0	0
37	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	Yes	1	1	0	0	0	0	0
38	Is a general watershed water quality protection plan in use?	No	1	1	1	1	1	1	1
39	Are any point source discharges within 16 miles upstream of intake?	Yes	0	0	0	0	0	0	0
40	Is pretreatment required at any of the point sources?	Yes	1	1	1	1	1	0	1

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**  
Diversion Id's: **011, 017, 008, 006, 010, 012, 013, 014, 015, 016**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:41:43**

## **Site Comments:**

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

# Site Comments

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**

## Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
137718	Rock Quarry never existed at this location	Dennis Taggart
137804	Same location as 137808, 137807, 137806, 137805 – occasional retail business now.	Dennis Taggart
137805	Same location as 137808, 137807, 137806, 137804 – occasional retail business now.	Dennis Taggart
137806	Same location as 137808, 137807, 137805, 137804 – occasional retail business now.	Dennis Taggart
137807	Same location as 137808, 137806, 137805, 137804 – occasional retail business now.	Dennis Taggart
137808	Same location as 137807, 137806, 1370805, 1370804 – occasional retail business now	Dennis Taggart
138629	Not meat packing plant – coin operated laundry.	Dennis Taggart
138630	No longer sports/bait shop – used car lot now.	Dennis Taggart

## Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

## Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

## Comments for Regulated Leaking Storage Tank Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Freeman Field	3002408	Storage tank removed, above ground tank installed with proper containment.	Dennis Taggart
Mobile Traveler Industrial Park	3001455	Storage tank removed, ground monitoring procedures completed.	Dennis Taggart
Public Wks Dept	3000808	Storage Tanks removed in mid-1990's	Dennis Taggart
Rolling Meadows Golf Course	3002205	Tank removed in 1996, above ground tank with proper containment now.	Dennis Taggart
Texaco, Steve's	3001256	Storage Tanks removed, new compliant tanks installed, ground monitoring procedures in place.	Dennis Taggart
Total #4157	3000695	Location shut down, tanks removed several years ago.	Dennis Taggart

## Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

## Comments for Regulated Solid Waste Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Intel Rail Corp.	5000614	This industrial solid waste facility is closed.	Nicole Fisher

## Comments for Regulated Solid Waste Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Pinkerton Motors, Inc.	5000283	As per Christine Mennicke of KDHE: This was a construction materials disposal site until 1984, no activity since then.	Dennis Taggart

## Comments for Regulated Waste Water Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
JUNCTION CITY MWTP	6001421	Location of wastewater plant grounds	Dennis Taggart
JUNCTION CITY MWTP	6001422	Location of wastewater plant discharge point	Dennis Taggart

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**  
Diversion Id's: **011, 017, 008, 006, 010, 012, 013, 014, 015, 016**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:41:43**

### **Added Site Comments:**

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

# Added Site Comments

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**

## Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Irrigated cornfield	9000591	irrigated cropground has potential for runoff of chemicals or fertilizers	Mike Houck
Septic System for Jack Jill Daycare	9000590	private onsite wastewater system 60 ft west of well	Mike Houck
Water Hazard	9000098	The city built a pond without liner approx. 30 feet south of well #3. This is well within the 100 foot exclusion area around we	Clifford White
aboveground fuel storage tanks	9000032	Above ground fuel storage tanks	Mike Houck
rural residence	9000099	There are several Septic Tanks within this area. It has approx. 50 homes within Zone A and B.	Clifford White
underground storage tanks	9000674	There are underground fuel storage tanks and fuel pumps south of well site	Mike Houck
Unknown	9000033	On-site wastewater lagoon for service station	Mike Houck
Unknown	9000034	On-site wastewater system for Bait Shop	Mike Houck
Unknown	9000097	There are several new homes being constructed at this time in that area.	Clifford White

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**  
Diversion Id's: **011, 017, 008, 006, 010, 012, 013, 014, 015, 016**  
Status: **Accepted**  
Submit Date: **2003-01-29 15:41:43**

## **Analysis Question Comments:**

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.



# Analysis Question Comments

Public Water Supply: **JUNCTION CITY, CITY OF**  
Assessment Area: **87**

## Comments for Analysis Questions

Analysis Question	Question Comments	Author
Is each confinement area registered with KDHE?	There are no feeding operations in the vicinity of our plant.	Thomas Neal
Has riparian area been farmed up to the stream/riverbank?	Area between several wells are used as cropland. Area between wells and Republican River not used as cropland.	Dennis Taggart
Is the intake a river intake?	All intakes are from wells with the source indirectly from river.	Dennis Taggart
Is there water quality monitoring conducted at all the rivers and/or lakes?	Unknown.	Dennis Taggart
Is TMDL needed for the river or lake?	Unknown.	Dennis Taggart
Are TMDL pollutants of concern reported by monitoring?	Unknown	Dennis Taggart
Are any point source discharges within 16 miles upstream of any intake?	Unknown	Dennis Taggart
Is pretreatment required at any point sources?	Unknown	Dennis Taggart
Is a NPDES stormwater permit required for the urbanized areas?	Unknown	Dennis Taggart
Are voluntary water quality protection plans in place for each urbanized area?	Unknown.	Dennis Taggart

## Comments for Analysis Questions

Analysis Question	Question Comments	Author
Is a general watershed water quality protection plan in use?	Unknown.	Dennis Taggart
Are any point source discharges within 16 miles upstream of intake?	City of Wakefield and Milford wastewater lagoons, septic systems on southeast area of Milford Lake	Dennis Taggart
Is pretreatment required at any of the point sources?	Unknown.	Dennis Taggart